

Please amend the application as follows:

In the Claims

Please amend Claims 1-3, 9-11, 19 and 22-24 as follows:

---

*Sub C27*  
~~(Amended) A non-human transgenic mammal, progeny or embryo thereof which has integrated into its genome DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein wherein the gene coding for the marker fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic mammal, progeny or embryo thereof.~~

*B1*  
2. (Amended) The non-human transgenic mammal, progeny or embryo thereof of Claim 1 wherein the gene coding for the marker fluorescent protein is selectively expressed in multipotent stem and progenitor cells of the non-human transgenic mammal or progeny thereof.

3. (Amended) The non-human transgenic mammal, progeny or embryo thereof of Claim 1 wherein the gene coding for the marker fluorescent protein is expressed in neural stem and progenitor cells of the non-human transgenic mammal or progeny thereof.

---

9. (Amended) A method of producing a non-human transgenic mammal which expresses a marker fluorescent protein in multipotent stem and progenitor cells, comprising:

*Sub C37*  
~~(a) introducing into a fertilized egg of a non-human mammal, DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein that is expressed in multipotent stem and progenitor cells of the non-human mammal;~~

*Sub C contd*

*BB*

(b) introducing the fertilized egg of (a) into a non-human mammal of the same species;  
(c) allowing the non-human mammal to produce progeny which are non-human transgenic mammals; and  
(d) selecting non-human mammal progeny of (c) whose multipotent stem and progenitor cells express the marker fluorescent gene.

*B2*

10. (Amended) The method of Claim 9 wherein the gene coding for a marker fluorescent protein is selectively expressed in multipotent stem and progenitor cells.

11. (Amended) The method of Claim 9 wherein the gene coding for a marker fluorescent protein is expressed in neural stem and progenitor cells.

*Sub C 4*

*BB*

19. (Amended) A method for measuring a multipotent stem and progenitor cell population in an animal organ or region thereof, comprising:  
measuring cells which fluoresce from the organ or region thereof of a non-human transgenic mammal which has integrated into its genome DNA comprising:  
a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a fluorescent protein, wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic mammal,  
wherein the cells which fluoresce are multipotent stem and progenitor cells.

22. (Amended) The method of Claim 19 wherein the regulatory sequence includes a second intron sequence of the mammalian nestin gene.

*B4*

23. (Amended) The method of Claim 19 wherein the regulatory sequence further includes a promoter.

24. (Amended) The method of Claim 23 wherein both the promoter and the regulatory sequence are obtained from the same mammalian nestin gene.

Amendments to the claims are indicated in the attached "Marked Up Version of Amendments" (pages i-ii).

Please add new Claims 51-79.

*sub C*

51. (New) A transgenic mouse, progeny or embryo thereof which has integrated into its genome DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein wherein the gene coding for the marker fluorescent protein is expressed in multipotent stem and progenitor cells of the transgenic mouse, progeny or embryo thereof.

*B S*

52. (New) The transgenic mouse, progeny or embryo thereof of Claim 51 wherein the gene coding for the marker fluorescent protein is selectively expressed in multipotent stem and progenitor cells of the transgenic mouse or progeny thereof.

53. (New) The transgenic mouse, progeny or embryo thereof of Claim 51 wherein the gene coding for the marker fluorescent protein is expressed in neural stem and progenitor cells of the transgenic mouse or progeny thereof.

54. (New) The transgenic mouse, progeny or embryo thereof of Claim 51 wherein the regulatory sequence of the mammalian nestin gene is obtained from rat nestin gene.

55. (New) The transgenic mouse, progeny or embryo thereof of Claim 51 wherein the regulatory sequence includes a second intron sequence of the mammalian nestin gene.

56. (New) The transgenic mouse, progeny or embryo thereof of Claim 51 wherein the regulatory sequence includes a promoter.

57. (New) The transgenic mouse, progeny or embryo thereof of Claim 56 wherein both the promoter and the regulatory sequence are obtained from the same mammalian nestin gene.

*sub C* 58. (New) A method of producing a transgenic mouse which expresses a marker fluorescent protein in multipotent stem and progenitor cells, comprising:

- (a) introducing into a fertilized egg of a mouse, DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein that is expressed in multipotent stem and progenitor cells of the mouse;
- (b) introducing the fertilized egg of (a) into a mouse;
- (c) allowing the mouse to produce progeny which are transgenic mice; and
- (d) selecting mice of (c) whose multipotent stem and progenitor cells express the marker fluorescent gene.

*B5*

59. (New) The method of Claim 58 wherein the gene coding for a marker fluorescent protein is selectively expressed in multipotent stem and progenitor cells.

60. (New) The method of Claim 58 wherein the gene coding for a marker fluorescent protein is expressed in neural stem and progenitor cells.

61. (New) The method of Claim 58 wherein the regulatory sequence of the mammalian nestin gene is obtained from rat nestin gene.

62. (New) The method of Claim 58 wherein the regulatory sequence comprises a second intron sequence of the mammalian nestin gene.

63. (New) The method of Claim 62 wherein the regulatory sequence further includes a promoter.

64. (New) The method of Claim 63 wherein both the promoter and the regulatory sequence are obtained from the same mammalian nestin gene.

65. (New) A transgenic mouse produced by the method of Claim 58.

*Sub C 1* 66. (New) A method for measuring a multipotent stem and progenitor cell population in a mouse organ or region thereof, comprising:

measuring cells which fluoresce from the organ or region thereof of a transgenic mouse which has integrated into its genome DNA comprising:  
a regulatory sequence operably linked to a gene coding for a fluorescent protein, wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the transgenic mouse,  
wherein the cells which fluoresce are multipotent stem and progenitor cells.

*B5*

67. (New) The method of Claim 66 wherein the gene coding for a fluorescent protein is selectively expressed in multipotent stem and progenitor cells.

68. (New) The method of Claim 66 wherein the gene coding for a fluorescent protein is expressed in neural stem and progenitor cells.

69. (New) The method of Claim 66 wherein the regulatory sequence includes a second intron sequence of the mammalian nestin gene.

70. (New) The method of Claim 66 wherein the regulatory sequence further includes a promoter.

71. (New) The method of Claim 70 wherein both the promoter and the regulatory sequence are obtained from the same mammalian nestin gene.

72. (New) A method for measuring a multipotent stem and progenitor cell population in a live animal, organ or tissue thereof, comprising:  
measuring cells which fluoresce from the organ or region thereof of a non-human transgenic mammal which has integrated into its genome DNA comprising:  
a regulatory sequence operably linked to a gene coding for a fluorescent protein, wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic mammal,  
wherein the cells which fluoresce are multipotent stem and progenitor cells.

73. (New) The method of Claim 72 wherein the gene coding for a fluorescent protein is selectively expressed in multipotent stem and progenitor cells.

*B 5* 74. (New) The method of Claim 72 wherein the gene coding for a fluorescent protein is expressed in neural stem and progenitor cells. /

75. (New) The method of Claim 72 wherein the regulatory sequence includes a second intron sequence of the mammalian nestin gene.

76. (New) The method of Claim 72 wherein the regulatory sequence further includes a promoter.

77. (New) The method of Claim 72 wherein both the promoter and the regulatory sequence are obtained from the same mammalian nestin gene.

*Sub C* 78. (New) An expression construct comprising a promoter sequence, a gene coding for a marker fluorescent protein and a regulatory sequence present in the second intron of said mammalian nestin gene.

79. (New) A non-human transgenic adult mammal which has integrated into its genome DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a